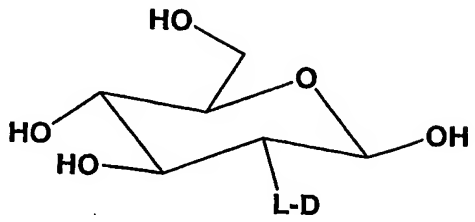
WHAT IS CLAIMED IS:

1. A 2-deoxyglucose conjugate, wherein said conjugate is represented by the formula:



or a pharmaceutically acceptable salt thereof, wherein

L is a linker group; and

D is a diagnostic or therapeutic agent, provided that said conjugate is not [^{18}F]deoxyglucose or 2–[N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)amino]-2-deoxy-D-glucose.

2. The conjugate of claim 1, wherein said linker group, L, is selected from the group consisting of a covalent bond, –NH–, –peptide–, –nucleic acid–, $-O-(CH_2)_r-O-$, $-NH-CH_2-CH_2-NH-$, $-NH-CH(COOH)-CH_2-NH-$, $-NH-CH_2-CH(COOH)-NH-$, $-NH-CH_2-CH_2-CH_2-NH$, $-O-(CH_2)_r-NH-$, $-S-(CH_2)_r-NH-$, $-S-(CH_2)_r-C(O)-$, $-NH-CH_2-C(O)-$, $-O-CH_2-CH_2-O-CH_2-CH_2-O$, $-NH-NH-C(O)-CH_2-$, $-NH-C(CH_2)_2-C(O)-$, and $-NH-NH-C(O)-(CH_2)_r-C(O)NH-N=$, wherein r, in each instance, is from 2-5.

3. The conjugate of claim 2, wherein said linker group is susceptible to cleavage by cytosolic enzymes.

4. The conjugate of claim 3, wherein said linker group is a peptide consisting of from about 1 to about 6 amino acids.

5. The conjugate of claim 1, wherein D is a photosensitive agent, an oncotherapeutic agent, a tumor diagnostic agent, an anti-AIDS agent, an antioxidant, a antirheumatic, an antiallergic, an antianemic agent, an antibiotic, an antidiabetic, an antiemetic, an antihistamine, an antiepileptic, a β-receptor blocker, a calcium antagonist, an ACE inhibitor, a bronchodilating agent, an antiasthmatic, a cholinergic, a corticoid, a dermatic, a diuretic, an enzyme inhibitor, a gout remedy, an influenza remedy, a sedative, an immunotherapeutic agent, a hepato-therapeutic agent, an antilipemic, a migraine remedy, a muscle relaxant, an anesthetic, a neuropathy preparation, an antihyperkinetic agent, a psychoactive agent, a thyreotherapeutic agent, a sex hormone, a sex hormone inhibitor, an antispasmodic agent, a vitamin, a wound treating agent, an analgesic, an antimetabolite, a topoisomerase inhibitor, a radiosensitizer, an inhibitor of DNA repair and an α-sympathicomimetic.

6. The conjugate of claim 5, wherein said photosensitive agent is a near infrared dye selected from the group consisting of pyropheophorbide, a chlorophyll derivative, cyclophosphamide, a cyclophosphamide derivative, bacteriochlorin (BChl), a bacteriochlorophyll derivative, Cy5.5, Cy7, the hexyl ether analog of pyropheophorbide, the hexyl ether anolog of pyropheophorbide carotenoid conjugate, benzothiazole (5F203), 4-hydroperoxy-cyclophosphamide (4HC), dicarbocyanine, dicarbocyanine 2-deoxyglucosamide (NIR664-2DG) and a tricarbocyanine.

7. The conjugate of claim 6, wherein said tricarbocyanine is NIR805 or Cypate.

8. The conjugate of claim 6, wherein said photosensitive agent is pyropheophorbide.

9. The conjugate of claim 5, wherein said photodynamic therapy agent is BChlPP, BChlE6 or NIR664.

10. The conjugate of claim 5, wherein said photosensitive agent is a photodynamic therapy agent, wherein said photodynamic therapy agent is selected from the group consisting of a porphyrin, a chlorin, a bacteriochlorin, a phthalocyanine, a naphthalocyanine, a porphycene, a texaphyrin and derivatives thereof.

11. The conjugate of claim 5, wherein said oncotherapeutic agent is selected from the group consisting of cyclophosphamide, 4-hydroperoxycyclophosphamide, taxol, adriamycin and temozolomide.

12. The conjugate of claim 11, wherein said oncotherapeutic agent is 4-hydroperoxycyclophosphamide.

13. A method of treating tumor disease in an animal, comprising administering the compound of claim 1 to an animal in need thereof to treat the tumor disease of the animal.

14. A method of inhibiting the growth of a cancer cell comprising:

(a) contacting said cancer cell with the conjugate of claim 8; and

(b) exposing said cancer cell to an effective amount of artificial irradiation.

15. The method of claim 14, wherein said cancer cell is selected from the group consisting of. breast, lung, pancreas, bladder, ovarian, testicular, prostate, liver, retinoblastoma, Wilm's tumor, adrenocarcinoma or melonoma.

16. The method of claim 14, wherein said artificial irradiation is selected from the group consisting of artificial ultraviolet, infrared (IR), gamma-irradiation, x-ray and visible light.

17. The method of claim 16, wherein said artificial irradiation is IR.

18. The method of claim 17, wherein said IR is near-infrared (NIR).

19. The method of claim 14, wherein said artificial irradiation is applied at the maximum absorption of the photosensitizer.

20. The method of claim 14, wherein said artificial irradiation is applied about 5 minutes to about 3 hours after administering the conjugate of claim 1.

21. The method of claim 14, wherein said artificial irradiation is applied about 10 to about 60 minutes after administering the conjugate of claim 1.

22. The method of claim 14, wherein said artificial irradiation is applied for about 5 seconds to about 60 minutes.

23. The method of claim 14, wherein said artificial irradiation is applied for about 1 minute to about 45 minutes.

24. The method of claim 23, wherein said artificial irradiation is applied for about 10 to about 30 minutes.

25. A pharmaceutical composition comprising the conjugate of claim 1 and a pharmaceutically acceptable carrier.

26. A method for the treatment of cancer in a subject comprising administering a therapeutically effective amount of the pharmaceutical composition of claim 25 to a subject in need thereof.

27. A method of synthesizing a bacteriochlorophyll analog comprising introducing an amine reactive universal linker or carboxylic reactive universal linker onto the bacteriochlorophyll macrocycle.

28. The method of claim 27, wherein an amine reactive universal linker is introduced, and said amine reactive universal linker is an isothiocyanate group.

29. The method of claim 27, wherein said method comprises reacting bacteriopurpurin-18 methyl ester with *tert*-butyl N-(-3-aminopropyl)-carbamate to form bacteriopurpurin-18-N-3'-(BOC-amino)propylimide.

30. The method of claim 27, wherein said method comprises reacting bacteriopurpurin-18-N-3'-(BOC-amino)propylimide with TFA to form bacteriopurpurin-18-N-3'-(amino)propylimide.

31. The method of claim 29, further comprising:

reacting bacteriopurpurin-18-N-3'-(amino)propylimide with 1,1'--thiocarbonyldiimidazole to form bacteriopurpurin-18-N-3'-(isothiocyanate)propylimide.

32. The method of claim 27, comprising reacting bacteriopurpurin-18-N-3'-(isothiocyanate)propylamide with D-glucosamine hydrochloride and N,N-diisopropylethylamine to form a 2-deoxyglucose conjugate of bacteriopurpurin-18-isothiocyanate (BChlPP-2DG).

33. The method of claim 27, wherein said method comprises reacting bacteriopheophorbide methyl ester with *tert*-butyl N-(-3-aminopropyl)-carbamate to form bacteriochlorin e_6-13-carboxy-N-3'-(BOC-amino)propylamide.

34. The method of claim 27, wherein said method comprises reacting bacteriochlorin e_6-13-carboxy-N-3'-(BOC-amino)propylamide with TFA to form bacteriochlorin e_6-13-carboxy-N-3'-(amino)propylamide.

35. The method of claim 29, further comprising:

reacting bacteriochlorin e_6-13-carboxy-N-3'-(amino)propylamide with 1,1'--thiocarbonyldiimidazole to form bacteriochlorin e_6-13-carboxy-N-3'-(isothiocyanate)propylamide.

36. The method of claim 27 comprising reacting bacteriochlorin e_6-13-carboxy-N-3'-(isothiocyanate)propylamide with D-glucosamine hydrochloride and N,N-diisopropylethylamine to form a 2-deoxyglucose conjugate of bacteriochlorin e_6-isothiocyanate (BChlE6-2DG).